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Indiana Livestock-Feed Price Ratios

Jack H. Armstrong

Purdue University
Cooperative Extension Service
Lafayette, Indiana

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Department of Agricultural Economics

The cost of feed is an important factor in producing livestock. For some types of livestock feed represents almost three-fourths of the total cost of production. Therefore, feed costs play an important part in determining the profitability of livestock enterprises.

A product-feed price ratio indicates the relationship of the price actually being received for the product to the cost of the feed being used to produce that product. Because of historical patterns quite often these ratios will indicate a future expected trend in livestock or product production. For example, if the relationship between the price of hogs and the price of corn becomes exceptionally favorable, producers will be enticed into producing more hogs. In general, the more important the feed in the cost of producing livestock, the more significant the ratio is as an indicator of future changes in livestock production.

The following charts are presented to show the relationship of various major Indiana farm products and feed prices during the last several years. 1/

Hogs

The hog-corn ratio (the price of hogs per 100 pounds divided by the price of corn per bushel) is used as one measure of determining the relative profitableness of producing hogs. When the price of hogs is favorable compared with corn, the ratio is high. The ratio shown in Figure 1 is based on the average price Indiana farmers receive for hogs and the average Indiana farm price of corn. In June 1963, the average price of hogs was $16.50 per 100 pounds and the corn price was $1.14 per bushel. This gives a hog-corn ratio of 14.5. In other words, 14.5 bushels of corn were equal in ~~volume~~ value to 100 pounds of hog, liveweight.

The trend in average hog-corn ratios by 10 year periods, 1851-1960, indicate a definite increase in hog-corn ratios, especially for the last 20 year period (Table 1).

Table 1. Average hog-corn ratios for 10 year periods, 1851-1960, for Indiana farms.

1851-1860 = 11.99	1911-1920 = 11.67
1861-1870 = 12.10	1921-1930 = 13.54
1871-1880 = 11.29	1931-1940 = 13.16
1881-1890 = 11.16	1941-1950 = 14.13
1891-1900 = 12.22	1951-1960 = 14.23
1901-1910 = 11.80	

This can be attributed somewhat to the decline of corn in importance in the total cost of producing hogs, from approximately 75 percent during the 1930's to approximately 60-65 percent at the present time and also to the rapid increase in efficiency in producing corn as compared to producing hogs.

1/ Tables of actual ratios are presented in Appendix with corresponding number of figure. Spaces are provided in tables and figures for continuation through future years.

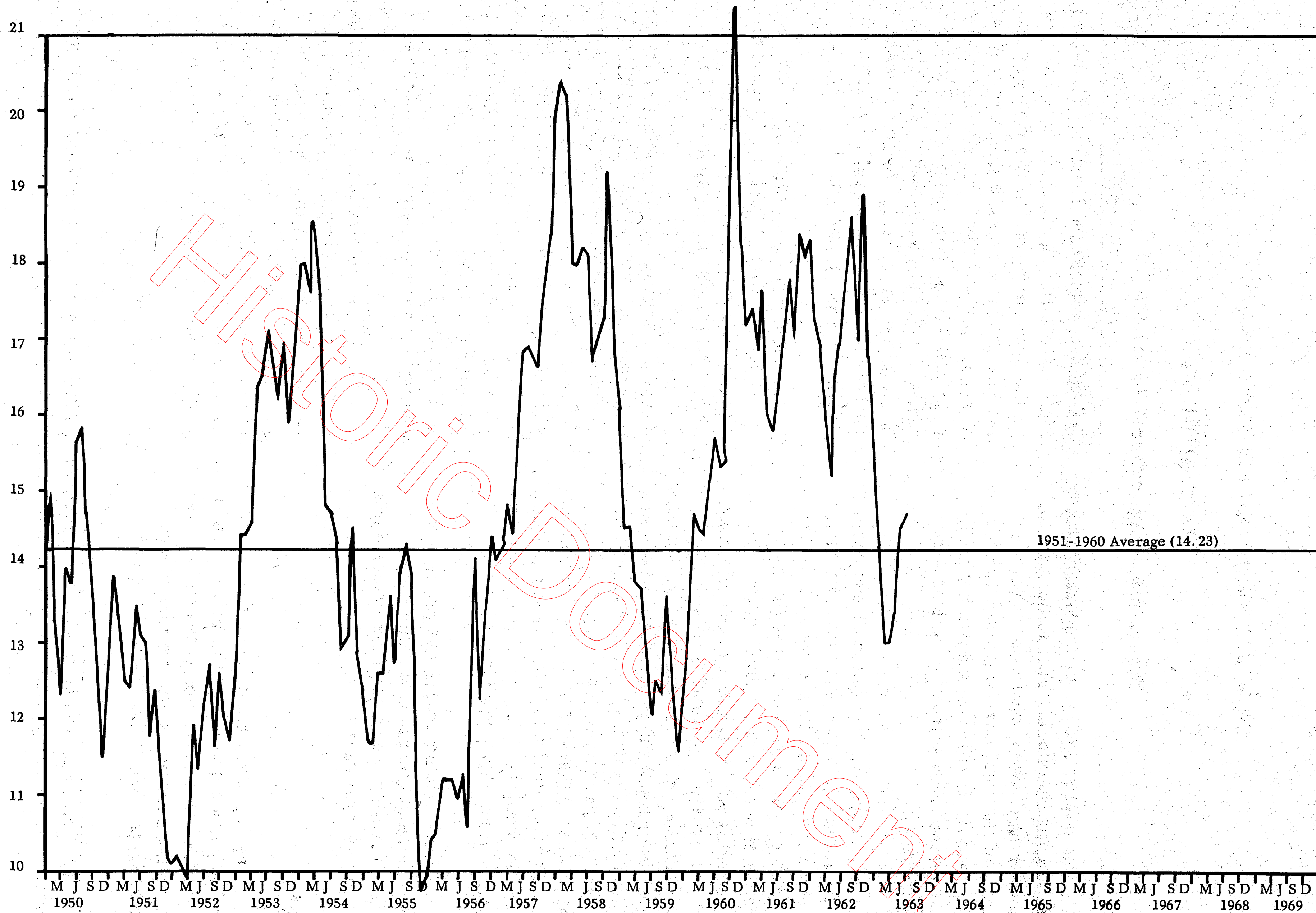

Figure 1. Indiana hog-corn price ratio (bu. corn equal in value to 100 lb. live hog), 1950-present and 1951-1960 average.

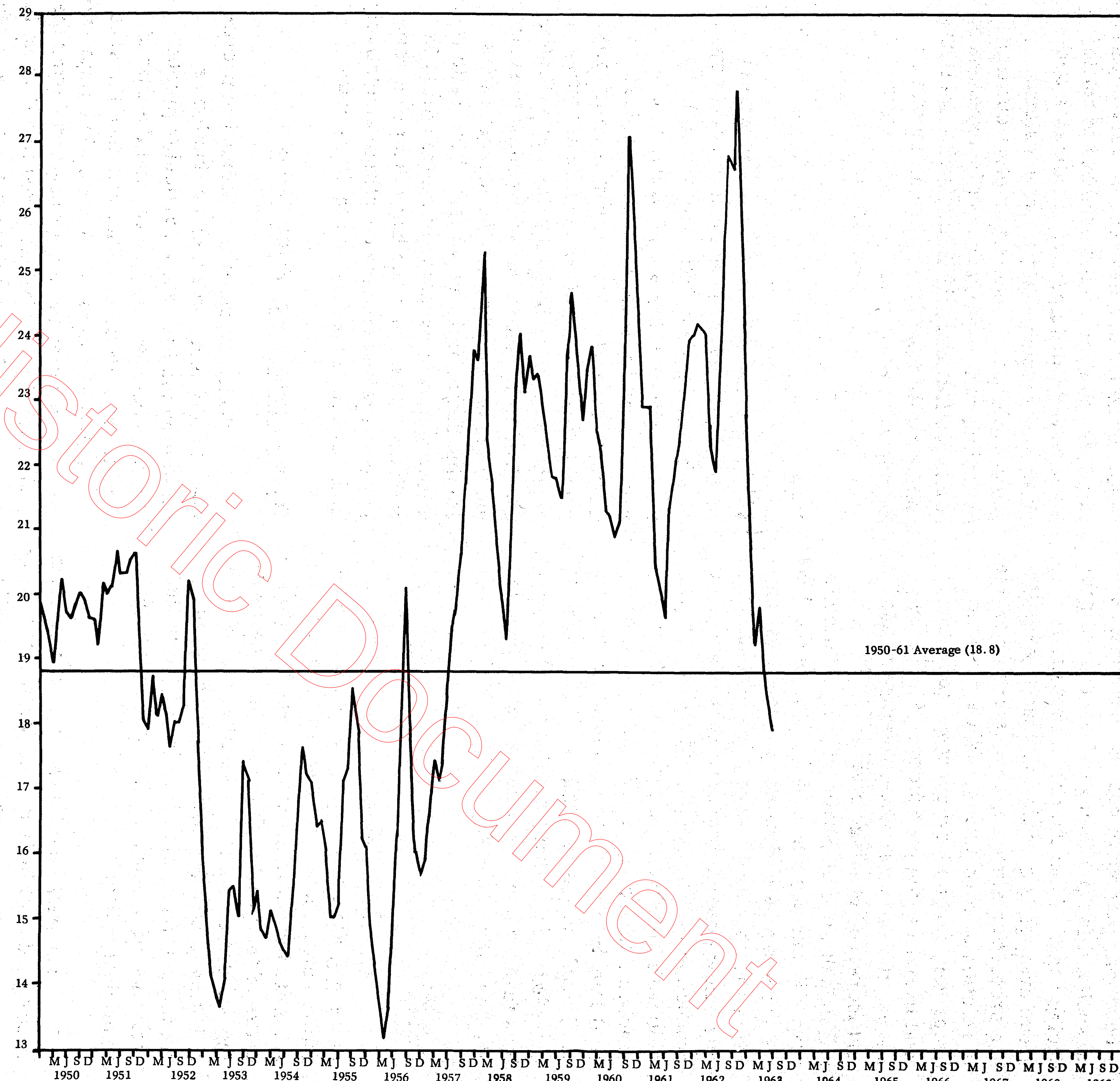

Figure 2. Beef steer-corn price ratio (bu. No. 3 yellow corn at Chicago equal in value to 100 lb. live steer--average of all grades of slaughter steers sold out of first hands in Chicago), Chicago basis, 1950-present, average 1951-1960.

The hog-corn ratio is one of the most reliable indicators of future changes in hog production, primarily because corn makes up such a large percentage of the cost of producing hogs. When the hog-corn ratio is above average hog producers tend to expand hog production since hog prices are favorable in relation to corn prices. When the ratio drops very much below average, producers tend to reduce hog production. As Figure 1 shows, the ratio was above average in 1957 and increased to a high level in 1958 when hog prices were unusually high in relation to corn. From November of 1958 to July of 1959 the hog-corn ratio declined sharply, falling below the 10 year average. In response to this below average hog-corn relationship hog production was curtailed, and by the fall of 1960 with improved hog prices the ratio reached a high of 21.4. From early 1961 until late 1962 the ratio fluctuated around the 17.0 level, reaching a high of 18.9 in November 1962. Since that time the ratio has been less favorable and declined to below the 1951-1960 average of 14.23.

Steers

The beef steer-corn ratio is used, as is the hog-corn price ratio, as an indicator of future cattle feeding. However, it is a less accurate indicator than the hog-corn ratio because of the greater flexibility in cattle feeding and due to variations in other factors contributing to changes in the levels of cattle feeding. Corn is also less important in the total cost of producing slaughter steers than in producing hogs.

The beef steer-corn price ratio, often used to indicate Indiana beef feeding conditions, is based on the Chicago price of No. 3 yellow corn and prices of all grades of beef steers sold out of first hands for slaughter in Chicago. No Indiana steer-corn ratio is figured, as is done for hogs. The beef steer-corn ratio has been substantially above average during the past few years (Figure 2). This has resulted primarily from the rising demand for beef and the relatively low price of corn. In response to this relatively favorable feeding ratio, cattle feeding has become very popular as a farm enterprise and numbers of cattle fed have expanded greatly. At times a combination of circumstances, some natural, some man-made, results in violent changes in feeding ratios, as borne out by experiences portrayed for 1953, 1958 and 1963. Seasonal and cyclical factors also have an impact on feeding ratios and should be kept in mind when feeding ratios are studied.

Milk

The whole milk-feed price ratio is computed by dividing the price received by Indiana farmers for 100 pounds of milk by the cost per pound of a typical dairy feed ration based on Indiana farm feed prices. Owing to the wide seasonal variation in milk prices, there is a rather significant seasonal variation in the milk-feed price ratio (Figure 3). The low point in the year comes in spring and summer months with the highest ratios coming during fall and winter. This ratio is a less accurate indicator of future trends in milk production than the hog-corn price ratio since silage and pasture constitute a relatively high portion of the feed fed to dairy cows.

Poultry Product Feed Price Ratios

Whenever there is a decided improvement in efficiency in either production or marketing methods for a particular product, the ratio between the product and the cost of feed tends to decline. This has been the case for poultry and eggs (Figure 4). The improvements in poultry and egg production during the past several years has resulted in a decline in the pounds of feed required to produce a dozen eggs and a pound of poultry meat. This results in a decline in the level at which production will continue on a relatively stable basis.

Eggs.--The egg-feed ratio (price of eggs per dozen divided by price of poultry ration per

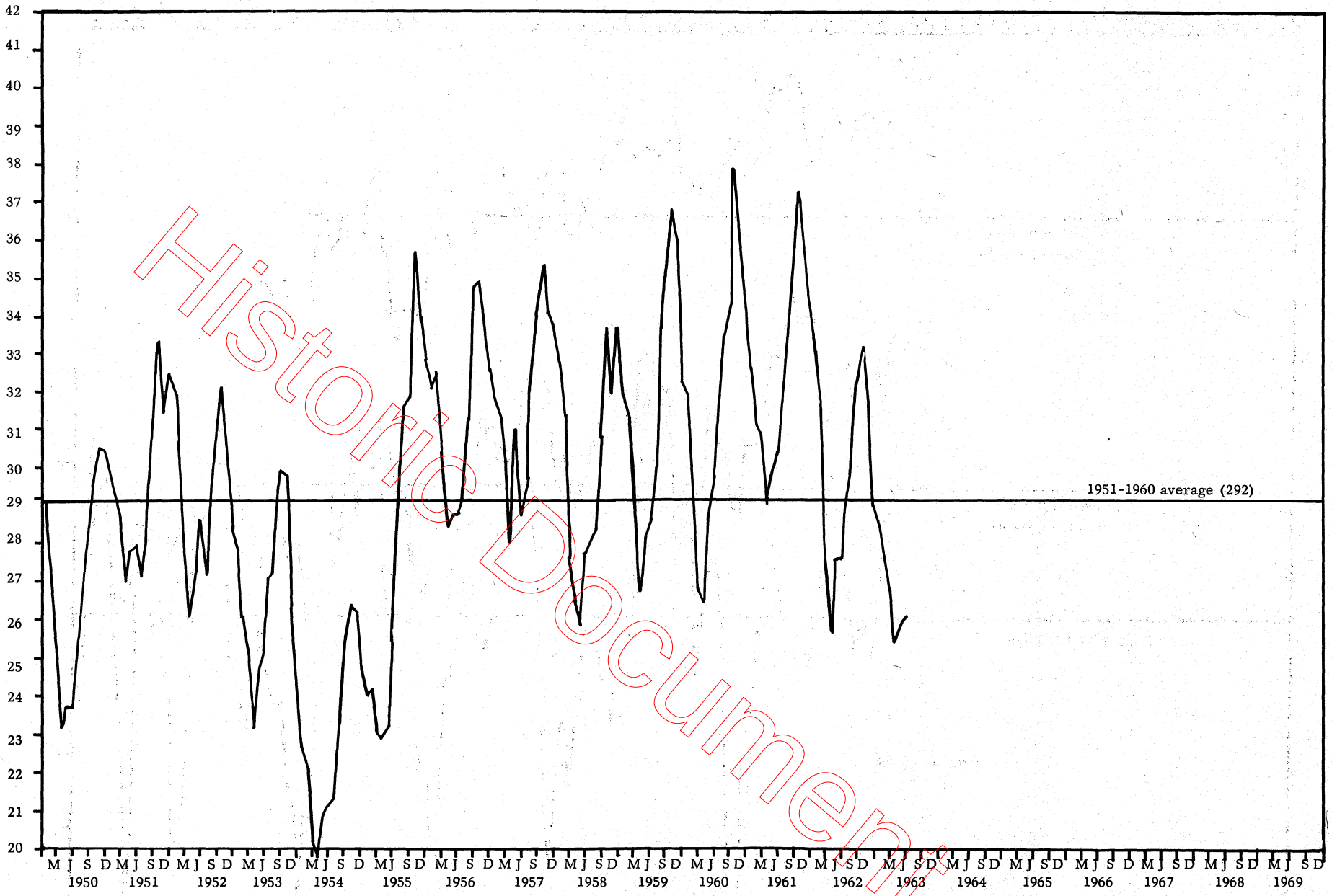

Figure 3. Indiana wholemilk-feed price ratio (lb. dairy ration equal in value to 100 lb. milk) 1950-present, 1951-1960 average.

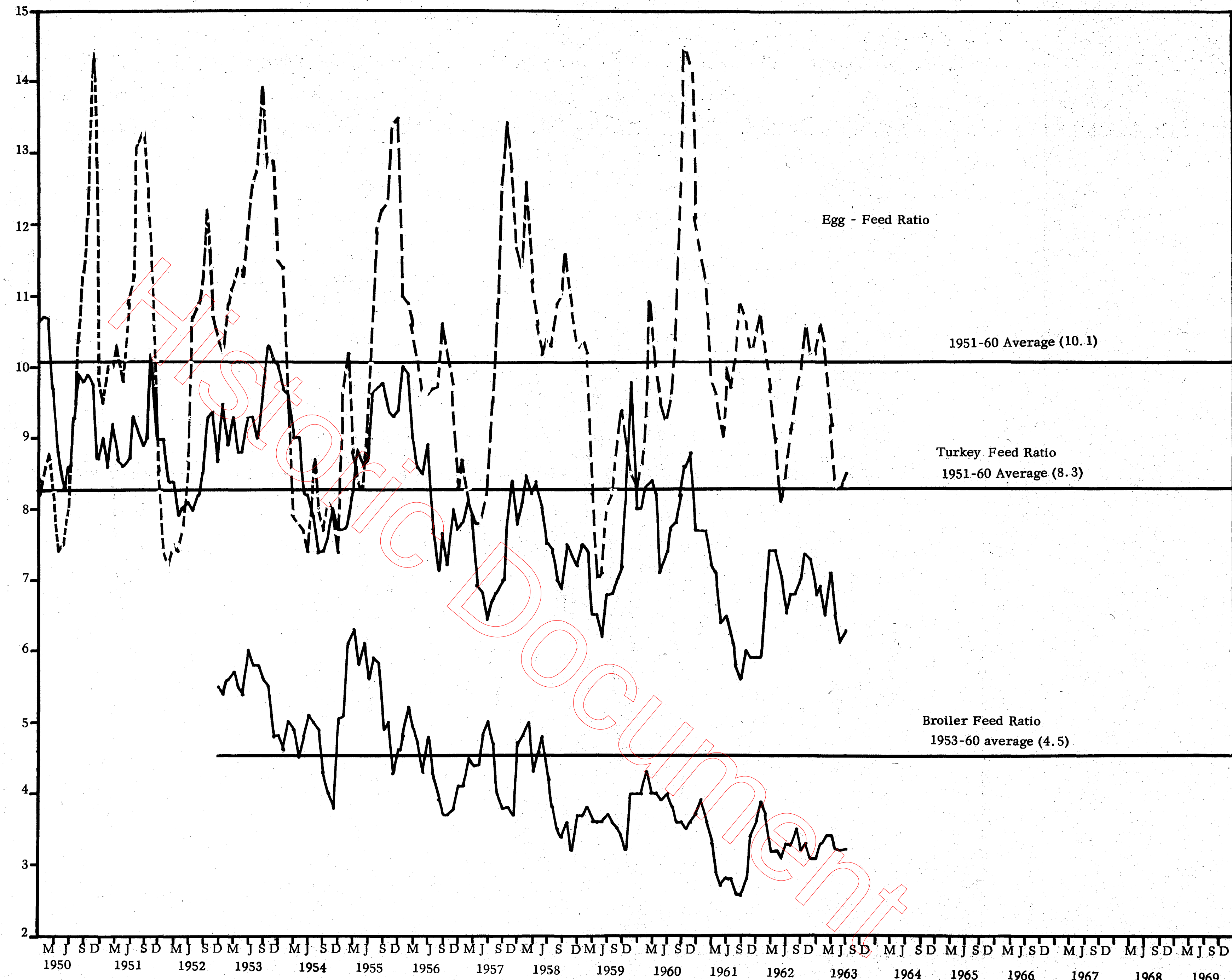

Figure 4. Indiana poultry/feed/product price ratios, egg-feed, turkey-feed, 1950-present and broiler-feed 1953-present. Lb. poultry ration equivalent in value to 1 doz. eggs or 1 lb. live turkey. Lb. broiler mash equivalent in value to 1 lb. live broiler.

pound) has fluctuated considerably during the past several years. Following a relatively favorable period during the fall of 1957 and early 1958 the ratio declined rather sharply during the following year and reached the lowest point in many years in the spring of 1959. Since that time the ratio has risen to the highest level in 10 years, in the fall of 1960, and has fallen during 1961 and 1962 to about average for the 10 year period.

Broilers.--The broiler-feed ratio (price of broilers per pound divided by price of broiler growing mash per pound) has shown a steady decline during the past eight years. Broilers are now produced with less feed than they were 10 years ago. As a result, even with the decline in broiler prices, the ratio at which production of broilers will continue at a relatively stable level is at a lower level than it was 10 years ago.

Turkeys.--The turkey-feed ratio has shown somewhat the same characteristics as the broiler-feed ratio, declining over the past several years. The turkey-feed ratio has been below the long-time average for the past two and one-half years. This probably represents a transition to a new basis as a result of new technology in the production of turkeys.

Summary

Livestock-feed price ratios are general guides that may be used to assist farmers in planning production and feeding operations. Favorable ratios encourage farmers to increase production, and unfavorable ratios tend to have the opposite effect. The time period between a favorable ratio and the increased marketings that eventually follow depends primarily on the time required for breeding, producing and marketing a particular product.

It should be noted that a ratio for an entire state may not closely fit a particular farm situation. Also, the exact level of a ratio is usually less important in planning future production than the expected upward or downward movement of the ratio. Seasonal and cyclical factors should also be kept in mind when studying feeding ratios.

Appendix Table 1. Indiana hog-corn price ratios, 1949 to date.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1949	16.0	19.1	17.7	15.8	15.3	15.9	16.7	17.0	17.8	16.4	16.2	12.9	16.4
1950	13.0	14.9	13.3	12.3	14.0	13.8	15.6	15.8	14.7	13.8	12.6	11.5	13.8
1951	12.8	13.8	13.0	12.5	12.4	13.4	13.1	13.0	11.8	12.4	11.1	10.2	12.5
1952	10.1	10.2	10.1	9.9	11.9	11.3	12.2	12.7	11.6	12.6	12.0	10.7	11.3
1953	12.6	14.4	14.4	14.6	16.3	16.5	17.1	16.7	16.2	17.0	15.9	17.0	15.7
1954	18.0	18.0	17.6	18.5	17.6	14.8	14.7	14.3	12.9	13.1	14.5	12.4	15.5
1955	12.4	11.7	11.7	12.6	12.6	13.6	12.7	13.9	14.3	13.6	12.6	9.7	12.6
1956	9.9	10.4	10.5	11.2	11.2	11.1	10.9	11.3	10.6	14.1	12.2	13.6	11.4
1957	14.4	14.1	14.3	14.8	14.4	15.9	16.8	16.9	16.8	16.6	17.7	18.4	15.9
1958	19.9	20.4	20.2	18.0	18.0	18.2	18.1	16.7	17.0	17.3	19.2	16.8	18.3
1959	16.0	14.5	14.5	13.8	13.7	13.2	12.1	12.5	12.4	13.6	12.6	11.6	13.4
1960	12.2	12.8	14.7	14.5	14.4	15.0	15.7	15.3	15.4	17.7	21.4	18.3	15.6
1961	17.2	17.4	16.8	17.6	16.0	15.0	16.4	17.0	17.8	17.0	18.4	18.1	17.1
1962	18.3	17.3	16.9	15.9	15.2	16.5	17.1	17.8	18.6	17.0	18.9	16.8	17.2
1963	15.6	14.3	13.0	13.0	13.4	14.5	14.7						
1964													
1965													
1966													

Appendix Table 2. Steer-feed price ratio (price of all steers at Chicago and no. 3 yellow corn at Chicago), 1949 to date.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1949	17.1	17.5	18.1	17.7	18.3	19.6	18.4	20.1	21.4	25.1	24.4	20.4	19.8
1950	20.1	19.7	19.4	18.9	19.6	20.2	19.7	19.6	19.8	20.0	19.9	19.6	19.7
1951	19.6	19.2	20.1	20.0	20.1	20.7	20.3	20.3	20.5	20.6	19.9	18.0	19.9
1952	17.9	18.7	18.1	18.4	18.1	17.6	18.0	18.0	18.3	20.2	19.9	17.7	18.4
1953	16.2	15.1	14.1	13.7	13.6	14.1	15.4	15.5	15.0	17.4	17.1	15.1	15.2
1954	15.4	14.8	14.7	15.1	14.9	14.6	14.5	14.4	15.3	16.5	17.6	17.2	15.4
1955	17.1	16.4	16.5	16.0	15.0	15.0	15.3	17.1	17.3	18.5	17.8	16.2	16.3
1956	16.1	15.0	14.3	13.6	13.2	13.6	14.6	16.3	17.6	20.1	17.9	16.0	15.5
1957	15.6	15.9	16.6	17.4	17.1	17.5	18.5	19.4	19.7	20.6	21.7	22.4	18.5
1958	23.7	23.6	25.3	22.2	21.6	20.5	19.9	19.3	21.1	23.2	24.0	23.1	22.2
1959	23.7	23.3	23.4	22.9	22.3	21.8	21.8	21.5	23.6	24.7	23.9	23.1	23.0
1960	22.8	23.4	23.8	22.5	22.1	21.3	21.2	20.9	21.1	23.5	27.1	26.2	23.0
1961	24.5	22.9	22.9	22.9	20.4	20.0	19.6	21.3	21.9	22.4	23.2	23.9	22.0
1962	24.0	24.2	24.1	24.0	22.3	21.9	23.4	25.4	26.7	26.6	27.8	25.5	24.7
1963	22.8	20.7	19.2	19.8	18.5	17.9							
1964													
1965													
1966													

Appendix Table 3. Indiana milk-feed price ratio, 1949 to date.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1949	285	270	253	228	224	230	246	267	288	299	328	297	268
1950	294	290	275	252	232	237	237	255	268	281	296	305	268
1951	305	299	292	288	269	278	279	271	282	298	333	315	292
1952	324	318	307	282	261	270	286	271	286	307	321	300	294
1953	284	278	261	252	232	248	255	271	273	299	298	263	268
1954	243	227	221	202	198	209	212	213	233	255	264	262	228
1955	247	241	242	230	229	232	254	293	316	319	358	339	275
1956	329	321	325	304	285	288	288	292	313	347	350	341	315
1957	326	318	314	302	280	310	287	297	321	340	353	341	316
1958	337	328	313	276	265	258	278	281	284	308	337	320	300
1959	337	319	313	291	268	283	286	302	337	352	369	350	317
1960	323	319	298	268	265	288	298	317	335	343	378	368	317
1961	340	326	312	309	291	299	305	320	337	355	373	361	327
1962	341	331	317	276	257	276	276	289	299	322	332	314	302
1963	290	285	276	268	255	259	261						
1964													
1965													
1966													

Appendix Table 4a. Indiana egg-feed price ratio, 1949 to date.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1949	12.0	11.4	11.7	11.7	12.1	12.4	12.5	13.5	15.0	15.4	13.1	11.0	12.6
1950	8.2	8.3	8.8	8.1	7.4	7.5	8.0	9.5	10.4	11.3	12.1	14.4	9.5
1951	9.9	9.5	10.0	10.0	10.3	9.8	10.9	11.3	13.1	13.3	12.4	11.0	11.0
1952	8.5	7.4	7.2	7.5	7.4	7.7	8.7	10.7	10.9	11.3	12.2	10.7	9.2
1953	10.4	10.2	10.9	11.1	11.4	11.3	11.9	12.6	12.8	13.9	12.8	12.9	11.8
1954	11.5	11.4	9.6	7.9	7.8	7.7	7.4	8.7	8.0	7.7	8.1	8.0	8.7
1955	7.4	9.7	10.2	8.8	8.4	8.3	8.9	10.1	11.9	12.2	12.3	13.4	10.1
1956	13.5	11.0	10.9	10.6	10.0	9.6	9.6	9.7	9.7	10.6	10.1	9.7	10.4
1957	8.3	8.7	8.1	7.9	7.8	7.8	8.2	9.5	10.9	12.5	13.4	12.8	9.7
1958	11.7	11.4	12.6	11.2	10.6	10.2	10.4	10.3	10.9	11.0	11.6	10.8	11.1
1959	10.3	10.4	10.2	8.2	7.0	7.1	8.0	8.2	8.7	9.4	8.8	8.5	8.7
1960	8.3	8.6	9.3	10.9	9.9	9.5	9.2	9.6	10.4	13.5	14.5	14.2	10.7
1961	12.1	11.6	11.2	9.8	9.6	9.0	10.0	9.7	10.1	10.9	10.7	10.2	10.4
1962	10.5	10.8	10.1	9.7	9.0	8.1	8.4	9.1	9.7	9.9	10.6	10.2	9.7
1963	10.2	10.6	10.3	9.2	8.3	8.3	8.5						
1964													
1965													
1966													

Appendix Table 4b. Indiana turkey-feed price ratios, 1949 to date.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1949	13.1	12.6	12.5	12.5	11.3	10.8	9.8	9.7	10.3	10.7	12.0	12.5	11.5
1950	10.6	10.7	10.7	9.7	8.8	8.3	8.6	9.3	9.9	9.8	9.9	9.8	9.7
1951	8.7	9.0	8.6	9.2	8.7	8.6	8.7	9.3	9.1	8.9	9.0	10.2	9.0
1952	9.0	9.0	8.4	8.4	7.9	8.0	8.1	8.0	8.2	8.5	9.3	9.4	8.5
1953	8.7	9.5	8.9	9.3	8.8	8.8	9.3	9.3	9.0	9.6	10.3	10.1	9.3
1954	10.0	9.7	9.6	9.0	9.0	8.2	8.2	7.9	7.4	7.4	7.6	8.0	8.5
1955	7.7	7.7	7.8	8.2	8.8	8.6	8.7	9.6	9.7	9.8	9.4	9.3	8.8
1956	9.4	10.0	9.9	9.0	8.6	8.5	8.9	7.7	7.1	7.7	7.2	8.0	8.5
1957	7.7	7.8	8.1	7.9	6.9	6.8	6.4	6.7	6.8	7.0	7.7	8.4	7.3
1958	7.8	8.1	8.5	8.2	8.4	8.0	7.5	7.4	7.0	6.9	7.5	7.3	7.7
1959	7.2	7.5	7.4	6.5	6.5	6.2	6.8	6.8	7.0	7.2	7.8	9.7	7.2
1960	8.0	8.0	8.3	8.4	8.2	7.1	7.4	7.7	7.8	8.2	8.6	8.8	8.0
1961	7.7	7.7	7.7	7.2	7.1	6.4	6.5	6.1	5.8	5.6	6.0	5.9	6.6
1962	5.9	5.9	6.8	7.4	7.4	7.1	6.5	6.8	6.8	7.0	7.4	7.3	5.9
1963	6.8	6.9	6.5	7.1	6.5	6.1	6.3						
1964													
1965													
1966													

Appendix Table 4c. Indiana broiler-feed price ratios, 1953 to date.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Ave.
1953	5.5	5.4	5.6	5.7	5.5	5.4	6.0	5.8	5.8	5.6	5.5	4.8	5.6
1954	4.8	4.6	5.0	4.9	4.5	4.8	5.1	5.0	4.9	4.3	4.0	3.8	4.6
1955	5.0	5.1	6.1	6.3	5.8	6.1	5.6	5.9	5.8	4.9	5.0	4.3	5.5
1956	4.6	4.8	5.2	4.9	4.7	4.3	4.8	4.3	3.9	3.7	3.7	3.8	4.4
1957	4.1	4.1	4.5	4.4	4.4	4.8	5.0	4.7	4.0	3.8	3.8	3.7	4.3
1958	4.7	4.8	5.0	4.3	4.6	4.8	4.2	3.8	3.5	3.4	3.6	3.2	4.2
1959	3.7	3.7	3.8	3.6	3.6	3.6	3.7	3.6	3.5	3.4	3.2	4.0	3.6
1960	4.0	4.0	4.3	4.0	4.0	3.9	4.0	3.8	3.6	3.6	3.5	3.6	3.9
1961	3.7	3.9	3.6	3.3	2.9	2.7	2.8	2.8	2.6	2.6	2.8	3.4	3.1
1962	3.6	3.9	3.7	3.2	3.2	3.1	3.3	3.3	3.5	3.2	3.3	3.1	3.4
1963	3.1	3.3	3.4	3.4	3.2	3.2	3.2						
1964													
1965													
1966													